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# IMA-EUROPE 2024 OSH SEMINAR

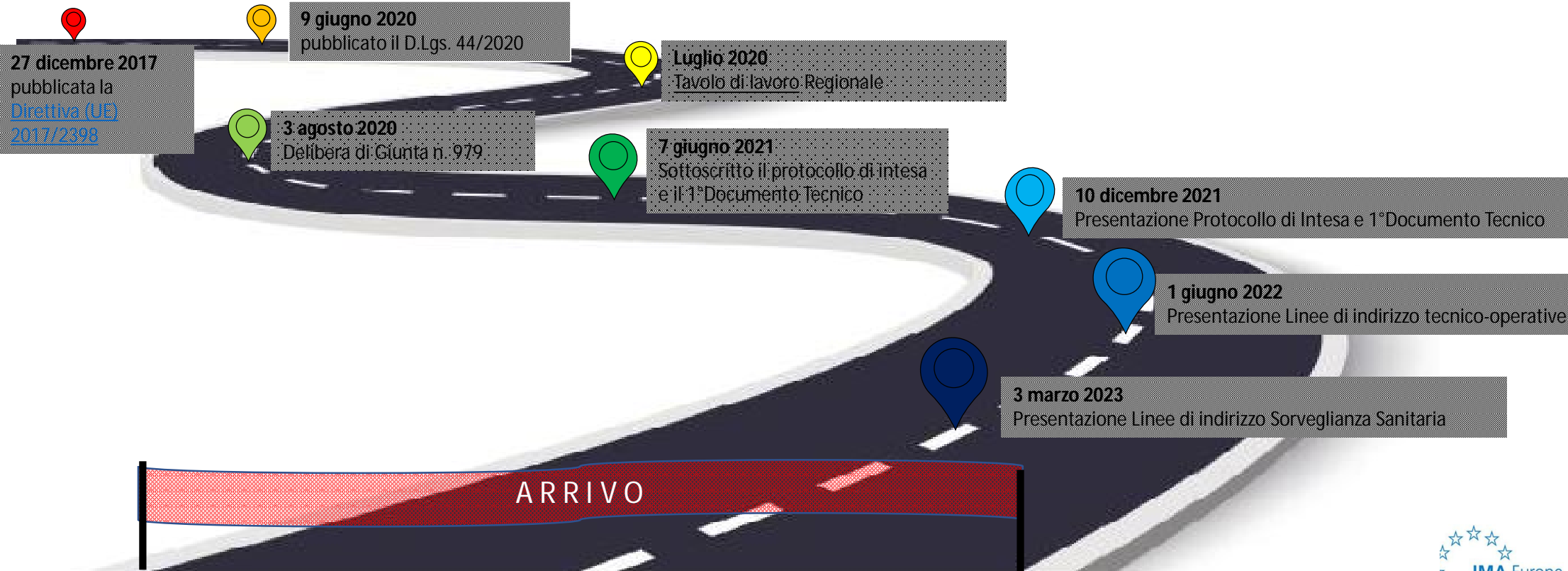
*"Dust Exposure Monitoring and Health and Safety in the Digital Age"*

*13 November 2024*

**Simone Mosconi – Confindustria Ceramica**

*The practical application of Directive 2017/2398: the Protocol signed in Emilia Romagna*

## Memorandum of Understanding: path initiated



Sassuolo, 13 November 2024

## Memorandum of Understanding: documentation produced

The documents are the result of joint work between representatives of the Emilia-Romagna Region, Confindustria Ceramica, labor organizations, and ACIMAC.



Sassuolo, 13 November 2024

# Memorandum of Understanding: 1° Technical Document

Signed on June 7, 2021 - 1<sup>st</sup> operational instrument.



**Raw material "Crystalline Silica"  
including its respirable fraction**

≠



**Work process:  
«Work involving exposure to respirable crystalline  
silica dust generated by a work process»**

January 1, 2019: the supplementary premium for insurance against Silicosis and Asbestosis has been repealed  
The positive trend (decrease) at national level of occupational diseases attributable to Silicosis and Asbestosis led to the repeal as of 1 January 2019 (Law No. 145 of 30 December 2018 - Article 1, paragraph 1126, letter l) of the supplementary premium for insurance against these risks (in force since 1943).

CLP Regulation (1272/2008 CE) doesn't classify "Crystalline Silica" among the substances for which there is a harmonized hazard classification as a carcinogen.

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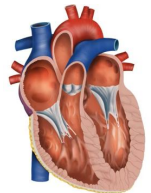
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Chapter 3 is the core of the document.

Establishes 2 **VERTICAL "shared criteria"** for identifying "Work involving exposure to respirable crystalline silica dust generated by a work process"



**CRITERION I : modification of the form, appearance, function of the material**

The operation is intended to change the form, appearance or function of the material by means of:

- Condition (a) - Mechanical transformation (e.g., cutting, reduction of particle size, ...)
- Condition (b) - Chemical transformation (e.g. procuring chemical reaction with an added agent, ...)
- Condition (c) - Physical transformation (e.g. mineralogical modification/aggregation of the material, ...)

**CRITERION II : dust generation**

The operation itself generates Respirable Crystalline Silica dust previously not present in the work environment.

As early as 1997, the IARC had classified crystalline silica dust (Quartz and Cristobalite) as a Category 1 carcinogen - Substances known to have carcinogenic effects on humans - pointing out, however, that "**carcinogenicity was not detected in all industrial settings examined,**" specifying that "**the mechanical, thermal and chemical history of silica particles determines its surface properties.**" (IARC - VOLUME 68, 1997/2009)

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# Memorandum of Understanding: 1° Technical Document

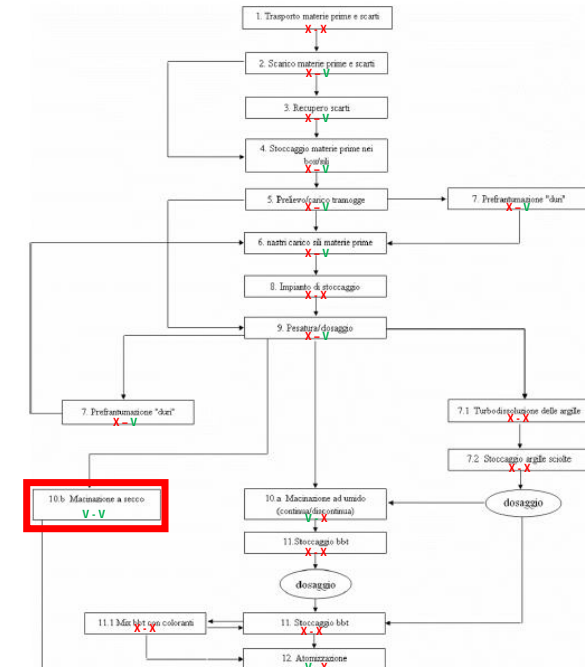
Signed on June 7, 2021 - 1<sup>st</sup> operational instrument.



The simultaneous presence of both criteria in each phase of the ceramic process has allowed us to identify the following phases of the ceramic process to which applies the CMD Directive.

- dry milling;
- dry cutting
- dry squaring/rectification

In all other work phases, where respirable crystalline silica dust is present but is not directly generated by a work process as identified above, the provisions of the Chemical Agents Directive continue to apply.



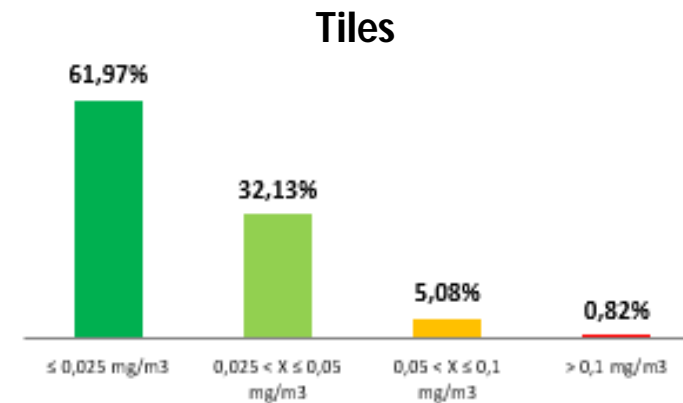
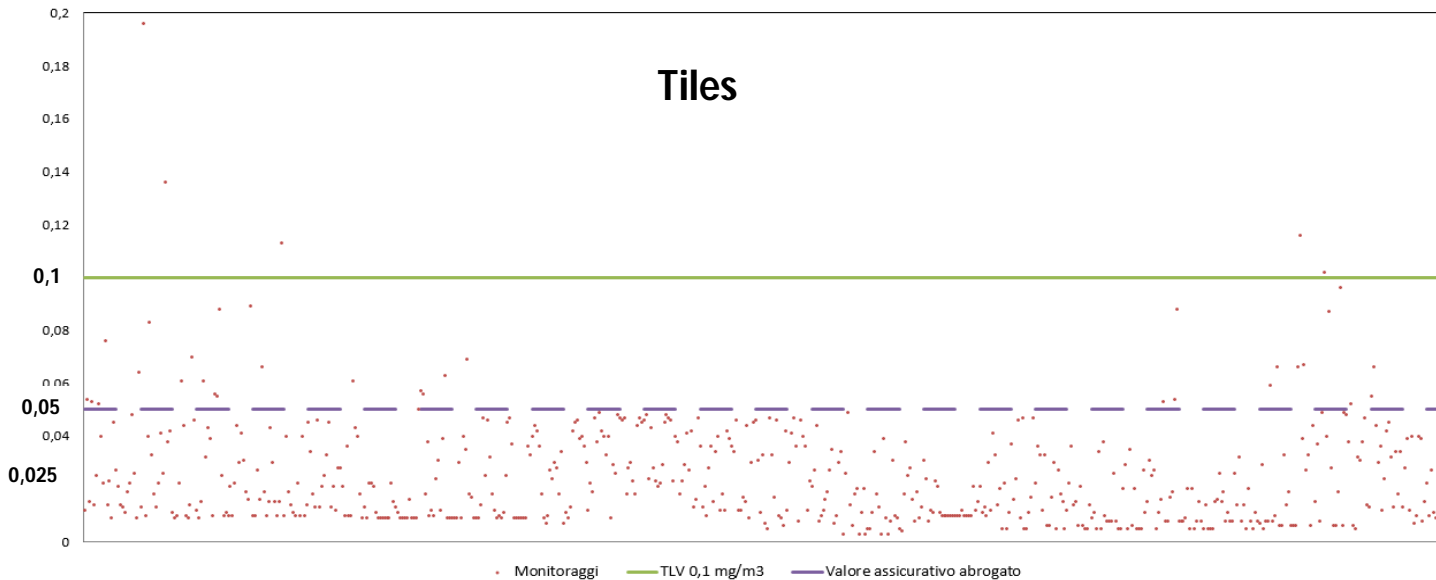
X = Absent criterion  
V = Present criterion

process step to which applies CMD



## Memorandum of Understanding: data collected

A total of 799 monitoring data (personal and environmental) were collected as follows: **610 tiles**; 140 bricks; 14 tableware; 35 refractories.



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# Memorandum of Understanding: Technical-Operational Guidelines

## 2<sup>nd</sup> operating instrument - Subscribed on June 1, 2022



Details the activities to be implemented for the proper implementation of the newly introduced provisions.



PULITURA DELLE POLVERI



*Elenco delle schede:*

- 2.1.1 – Pulitura
- 2.1.4 – Progettazione, installazione ed esercizio di condutture
- 2.1.5 – Progettazione e conduzione degli impianti di abbattimento delle polveri
- 2.1.9 – Aerazione generale
- 2.1.13 – Sistemi di aspirazione localizzata delle polveri
- 2.1.16 – Scarico e trasporto dello scarto degli abbattitori delle polveri

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# Memorandum of Understanding: Health Surveillance Guidelines

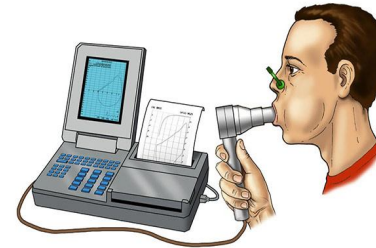
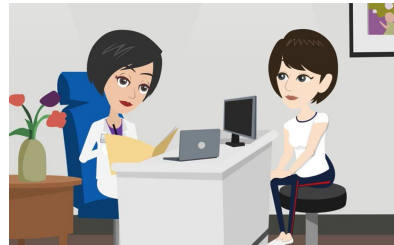
## 3<sup>rd</sup> operating instrument - Subscribed on March 3, 2023

Lavoratori esposti a Silice Cristallina Respirabile generata da un procedimento di lavorazione nel comparto ceramico - piastrelle  
Indicazioni in materia di sorveglianza sanitaria

di cui alla Delibera della Giunta della Regione Emilia-Romagna  
n. 979 del 3/08/2020 – Seduta n. 32



The document recalls the role and importance of Health Surveillance.  
Health examinations (clinical and biological examinations and possible diagnostic investigations) must be accompanied by the worker's medical history.

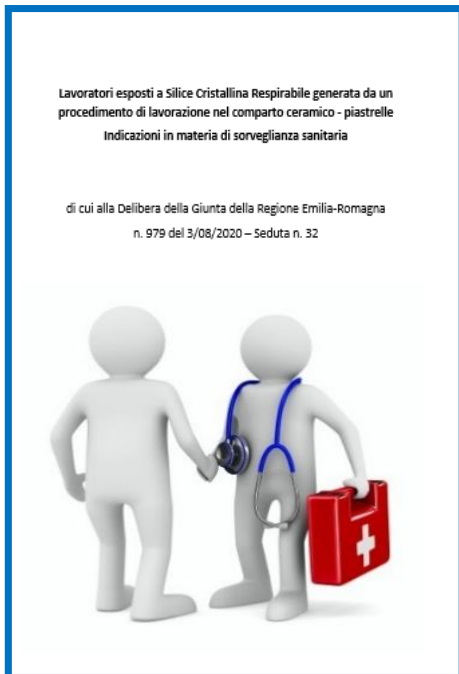


A single-projection chest X-ray involves an X-ray dose of 0.02 mSv; a Computed Tomography (CT) exposes up to 8 mSv (400 times higher); a Low-Dose Computed Tomography (LDCT) chest CT involves a dose of 1.5 mSv (75 times higher).

Sassuolo, 13 November 2024

# Memorandum of Understanding: Health Surveillance Guidelines

## 3<sup>rd</sup> operating instrument - Subscribed on March 3, 2023



Set 1 **HORIZONTAL** “shared criterion” highlighting internationally adopted values and recommendations proposed by the Italian Silica Network (N.I.S.).

	<a href="#">Direttiva 2017/2398</a>	<a href="#">ACGIH</a>	<a href="#">OSHA</a>	<a href="#">NIOSH</a>
Sostanza	Polvere di Silice Cristallina Respirabile	Quarzo e cristobalite	Quarzo, cristobalite e/o tridimite	Quarzo
Valore limite di esposizione*	0,1 mg/m <sup>3</sup>	N.d.	0,05 mg/m <sup>3</sup>	0,05 mg/m <sup>3</sup>
Valore soglia*	N.a.	0,025 mg/m <sup>3</sup>	0,025 mg/m <sup>3</sup>	N.a.

\*Misurato o calcolato in relazione a un periodo di riferimento di 8 ore.

The provisions of the OSHA standard - industry do not apply: “where the employer has objective data demonstrating that employee exposure to respirable crystalline silica will remain below 25 micrograms per cubic meter of air (25 µg/m<sup>3</sup>) as an 8-hour time-weighted average (TWA) under any foreseeable conditions”.

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## Memorandum of Understanding: a reference “technical standard”



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## Memorandum of Understanding: next steps



### Upcoming developments

The technical documents will be followed by:

- The results of investigations of respirable crystalline silica dust generated by the identified processes in order to chemically and morphologically characterize the dust generated in the processes of:
  - dry milling;
  - dry cutting
  - dry squaring/rectification
- shared indications for identifying information/training and updating paths for exposed workers.

Sassuolo, 13 November 2024



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*"Dust Exposure Monitoring and Health and Safety in the Digital Age"*

*3 November 2024*  
**Thank you**

**Simone Mosconi - Confindustria Ceramica**

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